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ORGANIZATIONAL COMMUNICATIONS AND DECISION MAKING IN CRISES

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The primary focus of this study is on the response of organizations to crises. Two major areas of organizational functioning are singled out for attention, paying special attention to decision making and communication.

The primary data base utilized involves materials collected in community-wide natural disasters by the Disaster Research Center in previous field work. From this data base, a series of propositions are derived, using decision (continued)

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making and communication, both as independent and dependent variables.

To make future propositions more specific, the following dimensions must be taken into account: (1) the specific type of organization which experiences crises; (2) the different effect of various crisis agents; (3) the fact that crisis events always have a time and space referent; and (4) that intraorganizational functioning in crises is conditioned by the interorganizational context in which it must operate.

A typology of group and organizational behavior in crises is derived from a cross classification of two variables: the nature of the crisis tasks undertaken by groups and the structure of these groups in the emergency period. An extension of this typology is explored, focusing on the importance of organizational coordination in crises.

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It is important to indicate that the extensive literature search and the subsequent compilation of the Inventory of Propositions was done by past and current DRC staff members: Benigno E. Aguirre, Judith A. Golec, Patrick J. Gurney, Joan L. Neff, Martin H. Smith, Robert G. Swisher, and Kathleen J. Tierney.

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CHAPTER I

INTRODUCTION

Much of social life is so structured that behavior has become routine. Most of the time, established and standardized procedures are followed, manifesting themselves in the habitual behavior of individuals and/or the traditional actions of groups. However, there are times when either internal and/or external factors generate enough stress and strain so that it is possible to think of responding entities as being in a state of crisis. Crises require the reworking of established and standardized procedures or the creation of new means as well as the organization for carrying them out.

Past research and the existing literature provide only limited insight into crises at best. They range from physiological laboratory studies of, for example, the reaction of astronauts undertaking space travel to philosophical speculations and essays about the situation facing mankind if depletion of most energy resources occurs as projected in the coming century. The examples from the range also indicate where most attention has been concentrated and how the problem has been most frequently approached. On the one hand, there is very concrete research using hard data examing individual reactions under stress. On the other hand, there are general speculations, using anecdotal examples, to look at general societal if not global problems (e.g., most recent writings on ecological or population "crises").

Yet in modern urbanized and industrialized societies, most large-scale stressful situations and crisis events are primarily handled by intermediate social units standing between individuals and the total society. That is, the monitoring of and response to the crisis is usually done by some sort of group. This effort at crisis management is not by individuals per se and en masse or by the society as a whole, but is generally by organizations that have formal or official responsibility for reacting to crisis situations.

In recognition of this fact, in the last decades some systematic social science research has been undertaken on the activities of organizations acting in stress situations. One line of research has been on crises in international politics and relations as exemplified by the initial work in this area by Guetzkow, Snyder and colleagues at Northwestern University starting in the late 1950s. Still another line of research on crises has been the work done on organizations in large-scale community emergencies. The first decade of work in this area during the 1950s focused in the main on the response of individual victims to natural disasters. When the Disaster Research Center (DRC) was formed in 1963, its research effort was primarily on the operation of organizations in natural and technological disasters (and after 1968 also in civil disturbances). While the early DRC research concentrated on the actual response of organizations during the emergency period at the height of community crises, later studies also examined pre-impact preparations

and planning for a range of sudden and unexpected large-scale emergencies which might face American communities. The cumulative research is used as the basis for the study reported here.

Specific Focus of the Study

The primary focus of this study is to focus on the response of organizations to crises. Organizations are the primary social units which respond to major crises, whether at the community, national or international level. In particular, two major areas of organizational functioning are singled out for attention -- decision making and communication. Both of these areas point to a range of behavior rather than to a single entity. Decision making involves the consideration of alternative outcomes, setting goals, deciding on means to chosen ends, etc. One important element in the present study is that decision making is viewed in an environment which is uncertain. The very notion of crisis implies uncertainty. In this context of uncertainty, organizations have to make decisions as to the allocation of resources for the accomplishment of goals. An integral part of the decision making process is communication, a process through which an organization sends a signal or message over a channel to another part of the organization (intraorganizational) or to another organization (interorganizational). The parts which are linked in this process create a communication structure. Obviously, communication is an essential part of the decision making process. The intent of the study is to use the cumulative research of DRC to build a set of propositions concerning organizational decision making and communication.

Outline of the Report

Chapter II indicates the sources of materials covered in developing the propositions. Chapter III discusses the types of propositions which were developed. (A complete list is found in the Appendix.) Chapter IV discusses a reconceptualization of organized behavior in disaster which allows the propositions to be placed in a more realistic context. Chapter V provides a conclusion.

CHAPTER II

RESEARCH DATA AND PROCEDURES

Data Base

The primary data base utilized to examine organizational decision
making and communication involved materials collected by DRC in previous
field work in various crisis events. DRC has made 301 different field
studies. Of these, 145 have been studies of organizational responses
to natural and technological disasters; 19 have been field examinations
of responses in civil disturbances. In addition, there have been 95
studies of overall community emergency planning, a number of field
studies of the operations of Emergency Operating Centers and separate
studies of rumor control centers in crisis situations.

Three general kinds of data have been denerated in these field studies.

1. Primary Interview Data. The majority of the field interviews
have been done with organizational officials and personnel, usually those
persons who occupy middle and top level positions, i.e. with key policy
and operational officials and decision makers. Almost all of the inter-
views are of an in-depth nature, following a semi-structured interview
guide with many open ended questions. In a vast majority of cases, a
chronological description, often step by step, was obtained of the re-
spondant's activities during the crisis. Most of these interviews were
tape recorded and have been transcribed. The typical transcript runs
several dozen typewritten pages, since interviews generally average two
hours in length.

2. Primary Observational Data. In some instances, DRC has been
able to place field teams of observers in Emergency Operating Centers
prior to or during disaster impact. Such field observations are typi-
cally dictated onto tape recordings and eventually transcribed in the
same way as primary interview data.

3. Secondary Documentary Data. DRC has amassed considerable
quantities of organizational charts, logs, afteraction reports and
critiques, statistical summaries about personnel and work activities,
minutes of meetings, disaster plans, operational manuals and a wide
variety of other documents. While the validity of some of these doc-
uments is problematic, most of them provide information not readily
available through interview and observational data. Much of this
material is particularly useful in assessing what an organizational
response should have been as opposed to what actually happened.

In addition to the data base described above, there were three
other sources of material covered.

1. Case Studies of Specific Communities and Events. While not
every event studied by DRC is written up in case study form, data per-
taining to certain events, e.g., Anchorage Earthquake, have been used as
the basis for the development of case studies. In addition, there were
about ten detailed unpublished case studies examining the possible role
of local civil defense agencies in planning and responding to major com-
munity crises. All of these case studies were built on available inter-
view and observational data supplemented by secondary documentary data.

2. Theoretical Discussions of Organizational Behavior in Disaster.
There have been several attempts to develop theoretical statements about
behavior in crisis situations. One such treatment which was examined for
this study is Dynes' Organized Behavior in Disaster (1975), was based on
DRC work as well as on previous research, and another is Barton's Social
Organization Under Stress (1963).

3. Theoretical Discussions of Organizational Behavior in Crises.
There is a body of literature within the social sciences concerning organ-
izational crisis behavior. Much of this literature, however deals with
decisions in "political" crises, so the review of this literature was
restricted to materials which were cast primarily in organizational theory
terms.

The published material, primarily of the last three types, is indi-
cated in the sources of this report. In most cases, the citations for
propositions mentioned in the next chapter and in Appendix A are given
to sources which would be most available to others.

Research Procedures

The general analytic procedure began with the setting up of two task
forces. Task Force #1 initially spent time in developing the parameters
of the tasks, defining the concepts which would be used and developing
agreement on a code which would be used for the content analysis. Four
major crisis events (two natural disaster situations and two civil dis-
turbances) were selected from those previously studied by DRC and these
cases were systematically analyzed for relevant materials relating to
organizational communications and decision making.

Task Force #2 examined the relevant theoretical social science lit-
erature about organizational crisis behavior. After the initial search,
this was restricted to an analysis of the literature which was cast prim-
arily on organizational theory terms.

A preliminary decision was made to try to separate organizational
decision making from organizational communication in the analysis. This
allowed for some clarity of focus, although there is a certain artifi-
ciality with the distinction, since communication is an integral dimen-
sion of the decision making process.

After the preliminary work of these two task forces was completed, the materials wer cought together and other materials were analyzed using the same cc   ts and procedures. The various propositions which were derived will   illustrated in the next chapter.

CHAPTER III

THE INVENTORY OF PROPOSITIONS

The complete inventory of propositions derived from the various sources are contained in Appendix A. They are ordered in terms of whether decision making or communication can be considered as independant or dependant variables, and the discussion here provides only illustrations and general directions. In addition, certain problematic aspects concerning the propositions will be indicated. First organizational decision making then organizational communication will be discussed.

In general, organizational decision making in crisis can be described as having several characteristics which distinguish it from "routine" decision making. The _rate_ (speed) of decision making increases, as does the _number_ of decisions made. The increase in the number of decisions is most marked at the _lower levels_ of the organization, so that the decision making structure can be said to be more _diffuse_ in times of crisis. There is evidence that there is _less consultation_ among organizational members before they act. _Individual autonomy_ is greater than usual, and the fact that members act as individuals means that organizational personnel and resources are committed _quickly_. Often this commitment is to tasks _outside_ the organization's previous domain of competence. Decisions like these are often legitimized _ex post facto_.

On the organizational level, it is not uncommon for organizations to _lose autonomy_ in crisis situations, coming under the umbrella of "new" coordinating arrangements. Within organizations, sectors with a high degree of crisis relevance _gain_ decision making autonomy, while other sectors experience a decrease in autonomy. All of these changes take place in the context of a newly developed emergency consensus that dictates specific _priorities_, which may vary from the everyday priorities of the organization.

A. Propositions where change in decision making structure in crises is the dependent variable.

1. Under conditions of stress (i.e., where demands exceed capability), and due to emphasis on speed and efficiency of response, the rate of official decision making increases (64).

2. Under conditions of stress, and due to emphasis on speed and efficiency of response, the rate of unofficial decision making increases (65).

3. Under conditions of stress, organizational incumbents limit themselves to decisions having highest priority (66).

4. Under conditions of stress, high-priority decisions are made by the highest-ranking person available (67).

5. Under conditions of stress, and due to urgency, individuals in established organizations make decisions autonomously (69).

6. Under conditions of stress, established organizations lose autonomy (70).

7. Under conditions of stress, and due to uncertainty, and urgency, personnel and resources are committed quickly (71).

8. Under conditions of stress, and due to uncertainty, established organizations commit personnel and resources to tasks outside their pre-crisis experience and/or roles (73).

9. Under conditions of stress, new decision makers, having relevant expertise, may emerge (75).

10. Under conditions of stress, and due to emergency consensus, crisis-relevant organizational sectors gain decision making autonomy (76).

11. Under conditions of stress, the number of decisions made increases (77).

12. Under conditions of stress, the decision making process becomes more diffuse (78).

13. Where the stress is greatest, changes in organizational decision-making structures are greatest (79).

14. Under conditions of stress, established organizations experience decision making difficulties different from those of expanding organizations (80).

15. Under conditions of stress, non-relevant organizational sectors may lose decision making autonomy (81).

16. Under conditions of stress, the number of decisions made at lower organizational levels increases (82).

17. Under conditions of stress, the decision making structure changes so as to maximize speed (84).

18. As stress increases, the probability increases that an established organization will shift to an expanding, extending, or emergent mode of organization (85).

    a. As modes of organization change, decision making processes will change (88).

b. The greater the decision making autonomy of the sectors in an established organization, the greater the probability of a shift to another mode (87).

19. The more the increase in organizational demands is unanticipated, the greater the magnitude of change in the decision making structure (89).

20. The sooner action is required, the greater the magnitude of change in the decision making structure (90).

21. The more extensive the absence of key personnel, the greater the magnitude of change in the decision making structure (91).

22. The greater the degree of inconsistency between structural elements, the greater the magnitude of change in the decision making structure (94).

23. The more plans for management of stress are in written form, the greater the influence of such plans on interaction patterns under stress (95).

24. The more frequently plans are rehearsed, the greater their influence on interaction patterns under stress (96).

25. The greater the proportion of incumbents who rehearse plans, the greater their influence on interaction under stress (97).

26. Under conditions of stress, decisive persons tend to move groups in the direction of autocratic control (98).

27. Where there is more than one decisive person, previous status determine who takes decision making priority (99).

28. If previous control was autocratic, and if autocratic status was not based on task expertise, autocratic control is likely to be lost under stress (100).

29. Under conditions of stress, intragroup consultation on decisions increases (101).

30. The greatest alteration in the decision making structure occurs immediately after the onset of a crisis (102).

31. The further the organization moves in time from the period of onset, the more decision making patterns come to resemble pre-crisis patterns (103).

32. Stress affects line functions earlier and more strongly than it affects staff functions; the earliest and greatest changes in decision making patterns will occur in the line functions (105).

33. Under conditions of stress, persons may behave as individuals, rather than as members of functionally integrated organizations (106).

34. Under conditions of stress, perceptions of what decisions are crucial may vary according to rank within the organization (107).

35. Under conditions of stress, decisions may be made within an organization, based upon perceived expectations of outsiders in the community (112).

36. Under conditions of stress, organizations which are uniquely suited to relevant tasks do not lose decision making autonomy (113).

37. Under conditions of stress, clear decision making power becomes problematic in organizations having a dual authority pattern (116).

38. Under conditions of stress, overlapping jurisdictions make decision making problematic (117).

B. Propositions where change in the decision making structure in crises is the independent variable.

1. Quick commitment of personnel and resources by individuals leads to organizational involvement in crises (132).

2. Quick commitment of resources and personnel can limit alternative organizational activities (133).

3. Hastily made decisions receive ex post facto legitimation (134).

4. Diffusion of the decision making process results in a lack of coordination among organizational subparts (135).

5. Under conditions of stress, because decisions are made to satisfy outsiders' expectations, performance of realistic tasks may be interfered with (138).

6. Where decisions are not made quickly enough to satisfy the requirements of the situation, new groups are likely to emerge to perform needed functions (139).

7. Under conditions of stress, and where legal jurisdictions overlap, there is a tendency to handle decisions informally (128).

8. Under conditions of stress, and where authority is not clearly specified due to overlap, personal attributes and relationships become salient (129).

9. Under conditions of stress, and where authority is centralized, authority conflicts may result (131).

10. If organizations must adapt to new environments after crises, and if changes are of high priority for the organization, short-term adaptation to crisis leads to long-term organizational change (127).

In general, organizational communication has to be subsumed as a major element in the decision making process. For the purposes here, it is separated as a distinct process. Most of the propositions involved these different elements of the communications process: (1) content of the communication; (2) channel of the communication; and (3) the context, the social milieu in which the content and channel are embedded. Each of these elements are composed of several relevant dimensions. For example, the content of communication involves some differentation with reference to: relevance or priority; volume or amount; speed; mode of processing; simultaneousness; redundance; accuracy; vagueness; confusion; intended audience; etc. Again, for illustrative purposes, propositions are ordered here in terms of organizational communication being an independent or dependent variable.

A. Propositions where organizational communication is the dependent variable.

1. Under conditions of organizational stress, organizational incumbents will attempt to ascertain quickly the priority of incoming messages (166).

2. Under conditions of organizational stress, a high degree of normative consensus will facilitate making a distinction between routine and priority messages (167).

3. As the degree of organizational stress increases, the average number of calls answered per minute increases (165).

4. As the degree of organizational stress increases, organizational incumbents will increasingly limit their activities to information of highest priority (168).

5. Under conditions of organizational stress, the higher the priority of the message, the greater the rate of processing (169).

6. As the degree of organizational stress increases, the routinized techniques for filtering calls will be altered so as to increasingly maximize speed (170).

7. Under conditions of organizational stress, organizational incumbents will advise 'routine' callers of other alternatives or request them to call back later (172).

8. As the degree of organizational stress increases the total amount of communication will increase (173).

9. As the degree of organizational stress increases, the amount of communication among the radio control officers increases (174).

10. As the degree of organizational stress increases, the amount of simultaneous conversation among the dispatchers increases (175).

11. As the degree of organizational stress increases, the amount of communication between radio control officers and other organizational personnel increases (176).

12. As the degree of organizational stress increases, the amount of communication between radio control officers and persons external to the organization increases (177).

13. As the degree of organizational stress increases, the amount of interorganizational communication will increase (179).

14. As the degree of organizational stress increases, the total amount of information to be communicated increases (164).

15. As the degree of organizational stress increases, the number of interorganizational calls initiated by the organization increases (180).

16. Under conditions of organizational stress, failure to have a central communication center at the demand site results in inaccurate and vague information being sent (182).

17. Under conditions or organizational stress, failure to have a central communication center at the demand site results in information that exaggerates the extent of the crisis (184).

18. Under conditions of organizational stress, the earliest messages received tend to underestimate the extent of the crisis situation (186).

19. Under conditions of organizational stress, fragmented and redundant messages deriving from multiple sources tend to exaggerate the extent of the crisis situation (187).

20. Under conditions of organizational stress, incoming information about the nature of the event tends to be vague and limited in quantity (190).

21. Under conditions of organizational stress, messages for assistance are often simultaneously duplicated at several of the organizations' headquarters (191).

22. Under conditions of organizational stress, messages requesting resources are ambiguous (193).

23. Under conditions of organizational stress, messages requesting resources are made without knowledge of prior requests (194).

24. Under conditions of stress, communication overload is precipitated by both an increase in internal organizational communication and extraorganizational input (195).

25. Under conditions of organizational stress, a variety of communication innovations may occur to handle the increased quantity of information to be exchanged (197).

26. Under conditions of organizational stress, upper echelon personnel may not be immediately notified (198).

27. Under conditions of stress, the greater the proportion of paid personnel (as contrasted with volunteers), the greater the speed in notifying appropriate organizational sub-units (199).

28. Under conditions of stress, notification of appropriate organizational sub-units will be facilitated by a preexisting set of procedures (200).

29. Under conditions of stress, sociological, not technological, factors are responsible for impaired organizational communication (203).

30. Under conditions of stress, the lack of preestablished social relationships impairs effective use of the communication technological capability (206).

31. Under conditions of organizational stress, (fluctuating and peak) communication sections tend to maintain their basic structures and greatly modify their functions (211).

32. Under conditions of organizational stress, there will be a shift in communication activities to maximize speed and accuracy of information input (212).

33. Under conditions of organizational stress, communication sections may shift from intraorganizational to extraorganizational communication in order to decrease demands (214).

34. Under conditions of organizational stress, intraorganizational communications will be relatively unproblematic when the process does not require spur-of-the-moment decisions based on little information (208).

35. During the impact period of a disaster, organizational personnel will require less explicit and less extensive information if the tasks and procedures to deal with them are familiar to the personnel in the organization (217).

36. During the impact period of a disaster, organizations with standard operating procedures for dealing with emergencies will be better able to collate and evaluate incoming information (216).

37. During the impact period of a disaster, relatively self-autonomous organizations are more likely to collate and evaluate incoming information efficiently (220).

38. Under conditions or organizational stress, communication tends to shift from written to verbal reports (223).

39. Under conditions of maximum demand, the communication process will be telescoped to include only those elements absolutely necessary to the completion of organizational tasks and the maintenance of field communications (224).

40. Under conditions of maximum demand, the communications section will attempt to reduce demands by discontinuing formal record keeping (225).

41. Under conditions of maximum demand, communication demands may be alleviated by assigning different priorities to calls (226).

42. Under conditions of organizational stress, the allocation of dispatching tasks on the basis of authority, experience and skill increases the speed and efficiency of the communication process (228).

43. Under conditions of organizational stress, communications are most problematic among organizational divisions whose tasks change as a function of the disaster (234).

B.   Propositions where organizational communication is the independent variable.

1. As the rate and urgency of communication increase, the patterns of interaction among dispatch officers will change (260).

2. As the rate and urgency of the communication increase, change in patterns of interaction among dispatchers occurs in initiators rather than receivers (261).

3. As the rate and urgency of the communication increase, the highest ranking person assumes the role of initiator and makes the greatest number of decisions (263).

4. As the rate and urgency of communications increase, the highest ranking official receives disproportionately more unsolicited information (266).

5. Under conditions of communication overload, dispatchers will attempt to decrease demands by rejecting messages that would normally be accepted as legitimate (268).

6. Under conditions of communication overload, dispatchers will attempt to increase organizational capacity by reducing the manpower

sent to investigate a message or try reassigning personnel from earlier to more recently received messages (269).

7. Under conditions of communication overload, organizational members will respond by increasing the amount of consultation and interaction among themselves (270).

8. Under conditions of stress, an increasing convergence of unfiltered information reduces the organization's capacity to respond effectively (274).

9. Under conditions of stress, organizational incumbents removed from the demand foci lack current information about the demand characteristics (276).

10. Under conditions of stress, failure to receive official and immediate notification of the demand situation complicates intraorganizational mobilization (231).

11. Under conditions of organizational stress, the absence of information on the nature and extent of a disaster, combined with an anticipation that such information will soon be available, tends to produce a hesitation to go ahead with particular courses of action which seem to be relevant for the unique emergency being faced (282).

12. Under conditions of organizational stress, failure to provide information about the nature and extent of the disaster to the public and related organizations will result in a convergence of calls requesting such information (284).

13. Under conditions of organizational stress, introducing mechanisms to check on the validity of informational input increases the efficiency of organizational response (285).

14. Under conditions of organizational stress, crucial disaster information gained during reconnaissance and assessment tends to remain within the organizations's boundaries (287).

15. Increasing the number of transmitting units increases the number of diverse sources of information and, hence, the need to integrate the information at an even greater rate (291).

16. Under conditions of organizational stress, when communications are inadequate, organizational personnel function as individuals rather than members of an organization (292).

17. Open communication channels affect decision making, creating 'situational' decision making (294).

The propositions, as they now stand, assume that all other conditions are similar, while in actuality, such conditions vary. In other words, there are many different variables which would affect the degree of stress placed on an organization. Without trying to spell out all of the possibilities, certain important elements which have been ignored up until this point will be introduced.

The context of decision making and communication have to be finally understood in a broader context. These processes: (1) occur in specific types of organizations, (2) are affected by specific types of crisis agents, (3) take place in a specific time and space context, and (4) occur in a specific interorganizational context.

1. <u>Specific Types of Organizations</u>. Some of the propositions do include distinctions as to different types of organizations; established, expanding, extending and emergent organizations. This typology was developed to capture some of the differences of the types of organizational adaptation to particular types of crisis events -- natural disasters -- and will be explained in more detail in the next chapter. In addition to this typology, it is likely that other standard organizational variables -- e.g., size, complexity, type of technology -- might provide a basis for classification which would uncover differences significant for decision making and communication within organizations.

2. <u>Specific Types of Crisis Agents</u>. Some characteristics of disaster agents influence the types of tasks which are created for organizations and also affect the ability of organizations to deal with them effectively. For example, disaster agents differ in their frequency, predictability, controllability, cause, speed of onset, length of forewarning duration, scope of impact and destructive potential (Dynes, 1974: Chapter 3). Other distinctions also may be relevant. For example, there are considerable differences between civil disturbances (a conflict crisis) and natural disaster (a consensus crisis) which would have important implications for organizational operations, particularly the process of communication. While all crises have certain elements in common, there are some very significant differences between different classes. There exists no overall typology of crisis which would allow these differences to be systematically identified.

3. <u>Specific Time and Space Context</u>. The propositions do not have a time or space context. In other words, organizational functioning takes place over time and in a particular place. Specification of these variables are generally lacking. For example, Powell (1954: 5) has divided disaster impact into eight stages along a time dimension; each of these stages has its characteristic activity and function. He divides the temporal sequence into predisaster conditions, warning, threat, impact, inventory, rescue, remedy and recovery. It is obvious that the tasks as well as the conditions for organizational functioning will vary over the time period.

Crisis also has differential impact in space. Wallace (1956: 3), has represented disaster impact in space as a series of concentric circles. This circularity is not intended to be a literal representation. The impact zone at the center is the area of primary destruction to property, life, resources and organization. Immediately outside that zone is an area of fringe impact. Outside of that is the zone through which both supplies and information have to pass to and from the impact zone. Outside this filter is the zone of organized community aid and a zone of organized regional aid. This spatial representation is important because it points up the fact that organizational operations would be dependant on the location of the organization in reference to the impact in space. Much crisis planning is based on the assumption that the operating organization is outside the impact area. Few treatments of crisis planning try to deal with the assumption of "double-disaster" -- that is, an organization which is also affected by impact, trying to deal with emergency tasks.

4. <u>Specific Interorganizational Context</u>. Through this report, the focus has been on intraorganizational functioning. It is obvious, however, that organizational functioning in a crisis situation takes place in a specific interorganizational context. Other organizations constitute a major part of the environment in which each organization functions. Thus, decision making and communication, even within a particular organization, are affected by these interorganizational relations.

Each of the four factors in this broader context would be important in understanding decision making and communication. In the next chapter, as an attempt to provide a better context for understanding, the influence of different organizational types will be discussed.

CHAPTER IV

A RECONCEPTUALIZATION OF ORGANIZATIONS IN CRISES

Many discussions of organizations in a crisis context make the assumption that understanding crisis behavior involves a simple extension of pre-crisis activities and structure. This is true because most organizational theories are static in their conceptualization. For example, many organizational theories have as a focus some notion of bureaucratic structure, where the organization is seen as an entity with clear cut boundries, definite membership, formal roles, clear cut lines of authority and specific tasks. The problematic situation in a crisis then is usually cast in terms of maintaining the pre-crisis normative model in crisis times. As an example, prescriptions are given to clarify lines of authority and to make certain communication follows "approved" channels in crisis situations. This general line of thought leads one to insist that adequate organizational functioning is gained by making organizational structure more rigid and precise. This direction has been rejected, however, in other theories of organizations in crisis which try to take into account emergent behavior, both within existing organizations and also leading to the creation of "new" organizations. An example of this is discussed below.

A Typology of Group Behavior Under Stress

Drawing an existing theory from the organization literature and from the collective behavior literature and reinforced by a series of field studies of organizations in crisis situations, Dynes and Quarentelli (1968) developed a typology based on the fact that many organizations dealt with new, unfamiliar tasks during emergencies and also that the increased demands made on organizations resulted in "members" being added to the structure of emergency organizations. The typology then is derived from a cross classification of two variables: one, the nature of the disaster tasks undertaken by groups and two, the emergency period structure of these group. These key variables point to differences in emergency operations when some group tasks may be old, routine, assigned, everyday ones or, on the other hand, the tasks may be new, novel, assumed or unusual. In addition, some groups and organizations operate in an emergency with the old or existing structure in which organizational members stand in definite kinds of pre-disaster relationships with one another in reference to work; other groups operate with a new, crises developed structure. When these two variables are cross classified, four types of group behavior can be identified. (See Figure I)

Figure I. Types of Group Behavior in Disasters

TASKS

	Regular	Non-regular
Old	Type I (Established)	Type III (Extending)
Structure		
New	Type II (Expanding)	Type IV (Emergent)

Type I is an established group carrying out regular tasks. This is exemplified by a city police force directing traffic around the impact zone after a tornado has struck a community.

Type II is an expanding group with regular tasks. The group frequently exists on "paper," not as an ongoing organization prior to the disaster event, and would be illustrated by Red Cross volunteers running a shelter after a hurricane.

Type III is an extending group which undertakes nonregular tasks. This is illustrated by a construction company utilizing its men and equipment to dig through debris during rescue operations.

Type IV is an emergent group which becomes engaged in nonregular tasks. An example is an ad hoc group made up of the city engineer, county civil defense director, local representative of the state highway department and a Colonel from the Corps of Engineers who coordinate the overall community response during a flood.

The typology has been useful to account for the admixture of institutionalized and non-institutionalized behavior observed in emergency situations. The types have been used to discuss the mobilization and recruitment of these groups and to identify types of problems such groups experience in task accomplishment, communication, authority and decision making (Dynes, 1970: Chap. 7). In addition, the types have been used by Quarantelli and Brouilette (1971) as a basis for indicating what types of patterned variations occur in the adaptation of bureaucratic structures to organizational stress. They suggest that bureaucratic structures, with their complexity, may exhibit all four patterns in an operational situation. That is, some segments may operate as an established group while other segments may be involved as an emergent group with non-regular tasks. They see this process as a specific example of the debureaucratization process which Eisenstadt (1959: 302-320) and others have described.

While the typology has been useful as an explanatory device for many purposes, it is necessary to provide other lines of explanation for these adaptations, either between groups and organizations or within groups and organizations. The typology depends much on the notion of emergence of new structures and tasks as a major factor in these adaptations. The identification of emergence, without properly providing for some explanation, often leads to the conclusion that while the behavior of established organizations are able to be explained sociologically, emergent phenomena cannot. Thus, emergent phenomena are often treated as atypical and therefore asociological.

The argument will be made here that much of what has been called emergent can be explained by; (1) the heightened necessity for organizational coordination during crises situation; (2) conditions which make for changes in the communication patterns within emergency organizations; and (3) the consequences which changes in communication patterns have for organizational coordination. These changes can be explained using standard organizational variables which are applicable to a wide range of types or organizations and organizational environments, not just organizations in emergencies. After establishing that theoretical orientation, we will come back to its application in crises situations.

Theoretical Orientation - Focus on Coordination

The theoretical orientation to be introduced here will require a slight shift in the previous focus, to a greater emphasis on the role of coordination within organizations in crises. In certain ways, organizational decision making can be thought of as a system of coordination, since most of the decisions which are made either deal with actions to link part of the structure to accomplish organizational tasks or to assume that some degree of coordination exists so that these tasks can be accomplished. The allocation and reallocation of organizational resources are predicated on the assumption that the parts of the organization are coordinated. Obviously, communication continues to play a critical part in decision making and coordination.

The specific theoretical orientation introduced here attempts to relate types of coordination to certain organizational variables. It was derived in large part from the work of Hage, Aiken and Marrett (1971). This theory suggests that the nature and mechanism of coordination used in an organization affects the volume and direction of communication in the organization. While this theory was tested in a non-disaster context, the types of variables specified are particularly significant in changes which occur in the crisis context.

Again, a central concern for organizations in crisis is coordination. Coordination can be seen as the degree to which there are adequate linkages among the organizational parts, i.e., specific task performances can be accomplished. Following March and Simon (1958: 158-169), it is suggested here that there are two basic ways in which organizations can be coordinated; plan and feedback. Coordination by plan is based on pre-established schedules, while coordination by feedback involves the transmission of new information. Each type of coordination is concerned with how the various tasks and/or organizational subunits are articulated into a coherent whole so that organizational objectives can be accomplished. These ways of coordination are based on different assumptions about the nature of conformity to organizational objectives. In coordination by plan, the activities of organizational members can be programmed, and then a system of rewards and punishments can be utilized to insure conformity. If there is a clear blueprint for action, departures are obvious, and reward and punishment can be applied with little ambiguity. In coordination by feedback, when errors are detected in task performance, these can be corrected by the provision of new information and were assumed to be the consequences of improper socialization and training. In this sense, coordination by plan relies on external control over organizational members; whereas coordination by feedback is more concerned with internal control.

While these two methods of coordination are presented here in the form of constructs, it is likely that organizations in empirical situations might use some mixture of the two mechanisms. On the other hand, it is possible to identify organizational variables which would be associated with one or the other mechanisms of coordination (Hage, Aiken, Marrett: 1971). Two initial relationships can be stated:

1. The greater the diversity of organizational structure, the greater the emphasis on coordination by feedback.

2. The greater the difference in status and power within an organization, the greater the emphasis on coordination through planning.

A third relationship also might be suggested which involves factors external to the organization. It has been suggested by several (March and Simon, 1958; James Thompson, 1967; Perrow, 1967; Lawrence and Lorsch, 1967) that environmental characteristics such as stability, homogeneity and stability are important determinants of internal structural variation. In general, these previous studies would suggest that stability of environment leads to routine technology and coordination by plan. This could be stated in other terms here: The greater the uncertainty of an organizational environment, the greater the emphasis on coordination by feedback.

Additional insight into the coordination process can be gained by looking at various organizational conditions which affect rates of communication.

One way to understand coordination by feedback is to see it as a process for a high volume of communication of information relevant to the work of the organization. Too, feedback would involve information coming from different parts of the organization. Thus, factors which would facilitate the volume and the direction of task communications would indicate coordination by feedback. Three factors would seem to have important consequences for the rate and direction of communications-complexity, formalization and centralization of authority. These relationships can be stated in the following terms.

a. The greater the degree of complexity, the greater the rate of task communication.

b. The greater the degree the complexity, the greater the proportion of horizontal task communication.

c. The greater the degree of formalization, the less the rate of task communication.

d. The greater the degree of formalization, the higher the proportion of vertical task communication.

e. The greater the degree of centralization of authority, the less the rate of task communication.

f. The greater the degree of centralization of authority, the higher the proportion of vertical task communication.

These relationships suggest that increased complexity leads to increased intraorganizational communication. They also suggest that greater formalization and centralization restrict communication, with the exception of vertical task communication. It remains to try to apply these theoretical generalizations more specifically to the crisis context.

Application of the Theoretical Orientation to Crisis Situations

The theoretical orientation just presented has certain implications for organizational functioning in crises. In general, crisis conditions are such as to cause organizational structure to move in the direction of coordination by feedback and away from coordination by plan. In addition, crises produce the conditions whereby the rate of communication increases as does the proportion of horizontal task communication.

Disasters represent environment uncertainly _par_ _excellence_ for organizations; therefore giving greater emphasis to coordination by feed-

back. Too, the major variables used in the previous typology center around new tasks and new structures. Either the acceptance of new tasks or new personnel by organizations creates greater organizational diversity, thereby creating the conditions for a greater emphasis on coordination by feedback. Also, a number of observers of emergency situations (for example, see Dynes, 1970) have commented on the status leveling effect of disaster. While this effect is often described as a community wide phenomena, it is also applicable within organizations where previous status differences tend to be minimized. In effect, then, all of the conditions and consequences of functioning of organizations during the emergency period tend to move toward coordination by feedback and away from coordination by plan.

Looking more specifically at the consequences of change in organizational structure and their implications for patterns of communication, all of the changes during the emergency period would seem to increase the rate of task communication and the proportion of horizontal task communication. The acceptance of new tasks or new structure would increase organizational complexity and decrease the degree of formalization and centralization. Thus, these changes which increase the rate and direction of communication which, in turn, would facilitate coordination by feedback.

These changes, which have been usually described simply as emergent phenomena, seem to be accounted for by rather standard variables and relationships which create the conditions affecting organizational coordination. It is not by chance that Type IV in the previous typology is illustrated by a group whose function was purely one of coordination. These factors also suggest the difficulty of Type I (Established organizations) in maintaining their predisaster coordination structure, since it is usually coordination by plan. Coordination by plan characterizes many of the traditional emergency organizations, such as police and fire departments. These conditions also explain why such organizations often "refuse" nontraditional tasks in disaster situations and usually have great difficulty in utilizing volunteers. In effect, their predisaster model of coordination would not "allow" such changes. Rather than increase their capabilities to meet the increased demands, such organizations tend to accept only those demands which are within their present capabilities. With continuity of regular structure and tasks, such organizations are able to keep their previous coordination patterns intact. On the other hand, rejected demands by some organizations have to be absorbed by others within the community, and they are more likely to be effectively handled by those organizations which coordinate by feedback. This is not to say that established organizations do not experience organizational strain. When most of the organizations in emergency operations are moving toward coordination by feedback, established organizations are, in many ways, "out of step". There is a discontinuity between their attempt to maintain internal coordination by plan when the conditions relating to the emergency period are such as to move most other organizations further toward coordination by feedback. Such a discontinuity, in turn, creates significant problems in the attempt of the larger social system to provide overall coordination.

Summary

It is suggested here that understanding organizational functioning in crises cannot be based on simple extrapolations of pre-crisis structure and function. The demands created on organizations in crises lead to emergence when organizations accept unfamiliar tasks and develop new structure. These changes lead to greater uncertainty, increased organizational diversity and decreased formalization and decreased centralization. The non-routine nature of crisis tasks and the increased complexity of organizational structure leads to increased dependance on coordination by feedback. For organizations that traditionally use coordination by plan, which characterize many traditional emergency organizations, this creates internal strain in their attempt to follow an inappropriate model of coordination for the crisis conditions.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

The primary focus of this study has been on the response of organizations to crises. Organizations are the primary social units which respond to major crises, whether at the community, national or international level. Two major areas of organizational functioning were singled out for attention: decision making and communication.

The primary data base utilized involved materials collected by the Disaster Research Center in previous field work in various crisis events. The predominant crisis agent reflected in the data base were community wide natural disasters. From this data base, a series of propositions were derived, using decision making and communication both as independent and dependent variables.

In general, organizational decision making in crises has several distinguishing characteristics. The rate of decision making increases, as does the number of decisions made, particularly at lower levels of the organization. There seems to be less consultation among organizational members, and such individual autonomy means that organizational personnel and resources are committed quickly, often outside the organization's previous domain of competence. Organizations usually lose autonomy when coming under the control of new "coordination" arrangements; within organizations, sectors with high crisis relevance gain decision making autonomy.

Organizational communication has to be seen as part of the decision making process and involves differentiation in <u>content, channel and context</u>. In general, under conditions of stress, social rather than technological factors are primarily responsible for impaired communication. The increase in technological forms of transmission during crises only increases the volume, and not the accuracy, of information, and hence, increases the need for collation and integration.

While the derived propositions provide an essential beginning, certain other dimensions have to be taken into account in the future to make such propositions more specific. Among these dimensions are: (1) specific type of organization which experiences crises; (2) the different effect of various crisis agents; (3) the fact that crisis events always have a time and space referent; (4) that intraorganizational functioning in crises is conditioned by the interorganizational context in which it must operate. The first of the dimensions was further explored.

A typology of group and organizational behavior in crises was presented derived from a cross classification of two variables: the nature of the crisis tasks undertaken by groups and the structure of these groups in the emergency period. An extension of this typology was explored, focusing on the importance of organizational coordination in crisis. Coordination was seen as the degree to which there is adequate linkage among the organizational parts. It was suggested that organizations tend to coordinate either by plan or by feedback. Crisis situations produce conditions of greater uncertainty, greater diversity, decreased formalization and decreased centralization. Increased complexity of organizations and the non-routine nature of crisis tasks move all organizations toward coordination by feedback. While such shifts have usually been described as emergent, it is argued here that factors present in crisis situations tend to move all organizations in the direction of coordination by feedback. Such movement runs counter to the usual normative prescription which orients most emergency planning to emphasize coordination by plan. A more effective direction might be to plan to facilitate coordination by feedback in organizations in crisis.

Implications

It is useful to make a final note on the implications which emerge from the suggestion that organizations move in the direction of co-ordination by feedback under crisis conditions. This direction tends to run counter to the usual assumptions which are made in guiding emergency planning. Most planning for emergencies is oriented toward increasing the centralization of authority and the formalization of procedures. In other words, coordination by plan is considered to be normative. This mode of coordination is seen as most appropriate, since a military model of organizational functioning in crisis is assumed to be most effective for such circumstances. In addition, planning is directed toward the development of social control mechanisms, i.e., rewards and punishments, to "enforce" this mode of coordination. These directions of emergency planning are seldom questioned, since many individuals engaged in such planning are recruited on the basis of their previous military experience or come from municipal agencies, which operate routinely by coordination by plan.

On the basis of what has been described here, the dominance of a normative planning model which emphasizes coordination by plan is, at best, questionable. The crisis event itself creates the conditions where such coordination is inappropriate. This inappropriateness, however, is not likely to be challenged in post-disaster critiques of organizational functioning, because the norms used to judge organizational effectiveness are such as to lead to negative evaluations of organizations which utilize coordination by feedback. The increase in communication is usually taken as a failure of coordination, not a necessary condition for it. Emergency planning, however, can also be directed toward improving and facilitating coordination by feedback, since it is likely to be the dominant mode in emergency conditions, not a chaotic abberation.

Decision Making

As dependent variable

1. In response to a crisis stimulus, there is a tendency toward contraction of authority in the organization; that is, the number of decision makers exercising authority in the decision process is decreased (Hermann, 1963).

2. As increasing stress is placed on authority units (decision makers exercising authority in the decision process), the tendency for authority units to withdraw from organizational tasks increases (Hermann, 1963).

3. Under increasing stress, an authority unit is more likely to institute modifications in organizational standards (Hermann, 1963).

4. Increased stress on authority units will increase the probability of conflicts between the authority units and other units in the organization (Hermann, 1963).

5. As intraorganizational conflict increases, there is a greater tendency for organization members to withdraw from organizational tasks and activities (Hermann, 1963).

6. As intraorganization conflict increases, the number of communication channels used for the collection and distribution of information in the organization decreases (Hermann, 1963).

7. A reduction in the number of communication channels connecting a unit to the remainder of the organization increases the unit's withdrawal behavior (Hermann, 1963).

8. Withdrawal behavior by a unit of an organization reduces the number of communication channels connecting it with the remainder of the organization (Hermann, 1963).

9. If the feedback to authority units, which are responsible for selecting and initiating a response to meet a crisis, is weakened by withdrawal behavior, conflict, or some other behavior, then greater difficutly may be expected in resolving a crisis (Hermann, 1963).

10. When, for lack of feedback, an authority unit fails to discover that an error has been made, the organization's viability may be seriously challenged (Hermann, 1963).

11. In a crisis, as compared to a non-crisis, a nation's decision makers are more likely to take action (Hermann, 1969: 80).

12. In a crisis, as compared to a non-crisis, a nation's decision makers are more likely to take hostile actions toward the agent initiating the situation (Hermann, 1969: 86).

13. In a crisis, as compared to a non-crisis, a nation's decision makers are more likely to take exploratory actions toward the agent initiating the situation (Hermann, 1969: 86).

14. In a crisis, as compared to a non-crisis, a nation's decision makers are less likely to take cooperative actions toward the agent initiating the situation (Hermann, 1969: 86).

15. In a crisis, as compared to a non-crisis, if the decision makers perceive the situation as originating from a friendly agent, then action is less likely to occur (Hermann, 1969: 98).

16. In a crisis, as compared to a non-crisis, if the decision makers perceive the situation as originating from a hostile agent, then action is more likely to occur (Hermann, 1969: 98).

17. The prior disposition of the policy makers toward the source of crisis makes a difference in how they respond (Hermann, 1969: 103).

18. In a crisis, as compared to a non-crisis, if the decision makers perceive that the agent originated the situation accidentally, then action is less likely to occur (Hermann, 1969: 104).

19. In a crisis, as compared to a non-crisis, if decision makers perceive that the agent originated the situation deliberately, then action is more likely to occur (Hermann, 1969: 104).

20. When decision makers take action, they are more likely to consider a situation to be deliberately initiated if it is very threatening and occurs within a short time or as a surprise than if it has the opposite characteristics (Hermann, 1969: 107).

21. In a crisis, as compared to a non-crisis, the more the decision makers perceive a situation to be ambiguous, the less likely is action to occur (Hermann, 1969: 108).

22. In a crisis, as compared to a non-crisis, the more the decision makers perceive their national survival to be endangered, the more likely is action to occur (Hermann, 1969: 112).

23. In a crisis, as compared to a non-crisis, the greater the priority attached by the decision makers to a goal before it is endangered, the more probable is the occurrence of action (Hermann, 1969: 118).

24. In a crisis, as compared to a non-crisis, the more capabilities a nation has in relation to other nations, the more likely is action to occur (Hermann, 1969: 125).

25. In a crisis, as compared to a non-crisis, a restricted search for alternative proposals is less likely to prevent action from occurring (Hermann, 1969: 129).

26. In a crisis, as compared to a non-crisis, the consideration of only a few alternative proposals by the decision makers is less likely to prevent action from occurring (Hermann, 1969: 133).

27. In a crisis, as compared to a non-crisis, the occurrence of affective conflict among the decision makers is less likely to prevent action from occurring (Hermann, 1969: 137).

28. In a crisis, as compared to a non-crisis, the contraction of authority in making a decision is less likely to prevent action from occurring (Hermann, 1969: 143).

29. In a crisis, as compared to a non-crisis, the frequency of consensus among decision makers as to the national goals affected by the situation is increased (Hermann, 1969: 155).

30. In a crisis, as compared to a non-crisis, increased priority is assigned by decision makers to the national goals that are most affected (Hermann, 1969: 155).

31. In a crisis, as compared to a non-crisis, the amount of search conducted by the decision makers for information with which to define the situation is decreased (Hermann, 1969: 158).

32. In a crisis, as compared to a non-crisis, the amount of search conducted by decision makers for alternative solutions to the situation is decreased (Hermann, 1969: 158).

33. In a crisis, as compared to a non-crisis, the number of alternative solutions to the situation identified by the decision makers is decreased (Hermann, 1969: 161).

34. In a crisis, as compared to a non-crisis, the number of decision makers exercising authority in the decision process is decreased; that is, a contraction of authority occurs (Hermann, 1969: 161).

35. In a crisis, as compared to a non-crisis, the decision makers' confidence in the ability of their decision to protect the affected goal(s) is decreased (Hermann, 1969: 177).

36. In a crisis, as compared to a non-crisis, the amount of search by the decision makers for support of their decision is increased (Hermann, 1969: 177).

37. In a crisis, as compared to a non-crisis, the volume of communication among decision makers within the foreign policy structure of a nation is increased (Hermann, 1969: 177).

38. In a crisis, as compared to a non-crisis, the volume of communication between a nation's decision makers and other international actors external to the nation is increased (Hermann, 1969: 178).

39. Increasing time-pressure with respect to decision making produces increases in the number of decision errors (Holsti, 1970).

40. When decision time is short, the ability to estimate the range of possible consequences arising from a particular policy choice is likely to be impaired (Holsti, 1970).

41. When stress increases, problem solving tends to become more rigid: the ability to improvise declines; previously established decision rules are adhered to more tenaciously; and the ability to resist the pull of closure is reduced (Holsti, 1970).

42. The unanticipated nature of crisis will itself restrict inquiry, and as the crisis deepens and stress increases, the search for options is likely to be further constricted (Holsti, 1970).

43. There is a general tendency for a reduction in the size of decision-making groups in such situations. Technological and other factors have reduced decision time to a point where broad consultation with legislatures and other important groups may be virtually impossible (Holsti, 1970).

44. There may be, moreover, a tendency to consult others less as the pressure of time increases, as well as to rely more heavily upon those who reinforce pre-existing stereotypes (Holsti, 1970).

45. The inception of crisis usually gives rise to a sharply increased pace of individual and bureaucratic activities, virtually all of which are likely to increase the volume of diplomatic communication (Holsti, 1970).

46. As the volume of information directed at policy makers rises, the search for information within the communication system tends to become less thorough, and selectivity in what is read, believed, and retained takes on increasing importance (Holsti, 1970).

47. Decision makers may seek to bypass both the effects of information input overload and of distortion in content in transmission by the use of improvised ad hoc channels of communication (Holsti, 1970).

48. The greater the increase in demands, the greater the degree of change in the performance structure (Haas and Drabek, 1973: 254).

49. The less anticipated the increase in demands, the greater the degree of change in the performance structure (Haas and Drabek, 1973: 254).

50. The more serious the consequences of the demands, the greater the degree of change in the performance structure (Haas and Drabek, 1973: 254).

51. The sooner organizational action is required to respond to the demands, the greater the degree of change in the performance structure (Haas and Drabek, 1973: 254).

52. The more key personnel are absent, the greater the degree of change in the performance structure (Haas and Drabek, 1973: 254).

53. The greater the degree to which emergent norms are in contradiction with previously existing norms, the greater the degree of change in the performance structure (Haas and Drabek, 1973: 254).

54. The greater the degree of strain in emergent interpersonal relationships, the greater the degree of change in the performance structure (Haas and Drabek, 1973: 254).

55. The greater the urgency and the shorter the decision time, the fewer are the number of significantly differentiated alternatives (Snyder and Paige, 1958).

56. The shorter the decision period, the less thorough a search for information within the communication system is likely to be (Snyder and Paige, 1958).

57. If authoritative sources of information are, in effect, reduced to one, the greater is the influence of that source on the definition of the situation (Snyder and Paige, 1958).

58. Initial responses to serious but ambiguous situations are more likely to be positive when a response is available which does not foreclose subsequent alternatives (Snyder and Paige, 1958).

59. The stronger the value components (i.e., strength of motives) activated by a situation, the less likely is insufficient information to prevent a decision (Snyder and Paige, 1958).

60. When crucial choices are forced on an organization from the environment, the decisional subsystem will be characterized by smaller decision units and a simpler role structure (Snyder and Paige, 1958).

61. Surprise creates an initial vacuum in the deliberative process, in which the evaluation of the significance of an event precedes the full unfolding of an event (Snyder and Paige, 1958).

62. The shorter the decision time, the fewer the alternatives which will be considered, and the less extensive an estimate of multiple outcomes attached to particular courses of action (Snyder and Paige, 1958).

63. Situations defined as having a very high degree of threat, and as indicating direct action, tend to result in integrated decisions (Snyder and Paige, 1958).

64. Under conditions of stress (i.e., where demands exceed capability), and due to emphasis on speed and efficiency of response, the rate of official decision making increases (Warheit and Dynes, 1968).

65. Under conditions of stress, and due to emphasis on speed and efficiency of response, the rate of unofficial decision making increases (Warheit and Dynes, 1968).

66. Under conditions of stress, organizational incumbents limit themselves to decisions having highest priority (Warheit and Dynes, 1968).

67. Under conditions of stress, high priority decisions are made by the highest ranking person available (Warheit and Dynes, 1968).

68. Organizational behavior under stress is a function of planning and strain (Warheit and Dynes, 1968).

69. Under conditions of stress, and due to urgency, individuals in established organizations make decisions autonomously (Warheit and Dynes, 1968).

70. Under conditions of stress, established organizations lose autonomy (Warheit and Dynes, 1968).

71. Under conditions of stress, and due to uncertainty, and urgency, personnel and resources are committed quickly (Warheit and Dynes, 1968).

72. Under conditions of stress, and due to uncertainty, established organizations commit personnel and resources quickly (Quarantelli and Dynes, 1967).

73. Under conditions of stress, and due to uncertainty, established organizations commit personnel and resources to tasks outside their pre-crisis experience and/or roles (Quarantelli and Dynes, 1967).

74. Under conditions of stress, and due to uncertainty, priority is given to information gathering (Quarantelli and Dynes, 1967).

75. Under conditions of stress, new decision makers, having relevant expertise, may emerge (Quarantelli and Dynes, 1967).

76. Under conditions of stress, and due to emergency consensus, crisis relevant organizational sectors gain decision making autonomy (Quarantelli and Dynes, 1967).

77. Under conditions of stress, the number of decisions made increases (Quarantelli and Dynes, 1967).

78. Under conditions of stress, the decision making process becomes more diffuse (Quarantelli and Dynes, 1967).

79. Where the stress is greatest, changes in organizational decision making structures are greatest (Quarantelli and Dynes, 1967).

80. Under conditions of stress, established organizations experience decision making difficulties different from those of expanding organizations (Quarantelli and Dynes, 1967).

81. Under conditions of stress, non relevant organizational sectors may lose decision making autonomy (Warheit and Waxman, 1973).

82. Under conditions of stress, the number of decisions made at lower organizational levels increases (Warheit and Waxman, 1973).

83. Stress affects organizational sectors differentially (Warheit and Waxman, 1973).

84. Under conditions of stress, the decision making structure changes so as to maximize speed (Warheit and Waxman, 1973).

85. As stress increases, the probability increases that an established organization will shift to an expanding, extending, or emergent mode of organization (Brouillette and Quarantelli, 1969).

86. This probability is a function of perceived demands, where there is no commensurate increase in capability (Brouillette and Quarantelli, 1969).

87. The greater the decision making autonomy of the sectors in an established organization, the greater the probability of a shift to another mode (Brouillette and Quarantelli, 1969).

88. As modes of organization change, decision making processes will change (Brouillette and Quarantelli, 1969).

89. The more the increase in organizational demands is unanticipated, the greater the magnitude of change in the decision making structure (Quaranteili, 1967).

90. The sooner action is required, the greater the magnitude of change in the decision making structure (Quarantelli, 1967).

91. The more extensive the absence of key personnel, the greater the magnitude of change in the decision making structure (Quarantelli, 1967).

92. Under conditions of stress, the rate of official and unofficial decision making will increase (Quarantelli, 1967).

93. Under conditions of stress, incumbents will limit their activity to tasks having highest priority (Quarantelli, 1967).

94. The greater the degree of inconsistency between structural elements, the greater the magnitude of change in the decision making structure (Quarantelli, 1967).

95. The more plans for management of stress are in written form, the greater the influence of such plans on interaction patterns under stress (Quarantelli, 1967).

96. The more frequently plans are rehearsed, the greater their influence on interaction patterns under stress (Quarantelli, 1967).

97. The greater the proportion of incumbents who rehearse plans, the greater their influence on interaction under stress (Quarantelli, 1967).

98. Under conditions of stress, decisive persons tend to move groups in the direction of autocratic control (Quarantelli, 1967).

99. Where there is more than one decisive person, previous status determines who takes decision making priority (Quarantelli, 1967).

100. If previous control was autocratic, and if autocratic status was not based on task expertise, autocratic control is likely to be lost under stress (Quarantelli, 1967).